FORM PTO-1390

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE
TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER: 99 P 5524

U.S. APPLN. NO. (if known, see 37 CFR 1.5): 09/719986

INTERNATIONAL APPLICATION NO.:	INTERNATIONAL FILING DATE:	PRIORITY DATE CLAIMED:
PCT/DE00/01227	19 April 2000	28 April 1999

TITLE OF INVENTION: DIELECTRICALLY IMPEDED DISCHARGE LAMP HAVING A SPACER

APPLICANT(S) FOR DO/EO/US: Michael ILMER, Angela EBERHARDT and Michael SEIBOLD

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1.	X	This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2.		This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3.	X	This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4.		A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5.	X	A copy of the International Application as filed (35 U.S.C. 371(c)(2))
	a. X	is transmitted herewith (required only if not transmitted by the International Bureau).
	b. X	has been transmitted by the International Bureau. (see attached copy of PCT/IB/308)
	c.	is not required, as the application was filed in the United States Receiving Office (RO/US).
6.	X	A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7.	X	Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
	a.	are transmitted herewith (required only if not transmitted by the International Bureau).
	b.	have been transmitted by the International Bureau.
	c.	have not been made; however, the time limit for making such amendments has NOT expired.
	d. X	have not been made and will not be made.
8.		A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9.		An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10.		A translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Item 11. to 16. below concern document(s) or information included:

11.	X	An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12.		An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13.	X	A **FIRST** preliminary amendment.
		A **SECOND** or **SUBSEQUENT** preliminary amendment.
14.		A substitute specification.
15.		A change of power of attorney and/or address letter.
16.	X	Other items or information: Form PCT/IB/308

Application Data Sheet

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NO.
09/719986	PCT/DE00/01227	99 P 5524

CALCULATIONS PTO USE ONLY

17. [X] The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR1.482) nor international search fee (37 CFR1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... $ 1,000.00	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... $ 860.00	
International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... $ 710.00	
International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... $ 690.00	
International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) ..... $ 100.00	
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860
Surcharge of $130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)).	$

CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	
Total claims	23 - 20 =	3	X $18.00	$ 54
Independent claims	2 - 3 =	0	X $80.00	$
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ $270.00	$
			TOTAL OF ABOVE CALCULATIONS =	$ 914
Reduction of ½ for filing by small entity, if applicable. Applicant claims Small Entity Status under 37 CFR 1.27.			+	$
			SUBTOTAL =	$ 914
Processing fee of $130 for furnishing the English translation later than months from the earliest claimed priority date (37 CFR1.49(f)).				$
			TOTAL NATIONAL FEE =	$ 914
Fee for recording the enclosed assignment (37 CFR1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). $40.00 per property			+	$
			TOTAL FEES ENCLOSED =	$ 914
			Amount to be refunded:	
			charged:	

a. [X] A check in the amount of $ **914** to cover the above fees is enclosed.

b. [ ] Please charge my Deposit Account No. **25-0120** in the amount of $ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. [X] The Commissioner is hereby authorized to charge any additional fees which may be required by 37 CFR 1.16 and 1.17, or credit any overpayment to Deposit Account No. **25-0120**. A duplicate copy of this sheet is enclosed.

SEND ALL CORRESPONDENCE TO:

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978-750-2078 Facsimile 978-750-2045

December 19, 2000

By Thomas W. Perkins

Thomas W. Perkins
Attorney for Applicants
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Docket 99 P 5524

PATENTS

IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

In re Application of

Michael ILMER,
Angela EBERHARDT
Michael SEIBOLD

International Application No.
PCT/DE00/01227

Serial No (Unknown)

International Filing Date:
19 April 2000

Filed herewith

DIELECTRICALLY IMPEDED DISCHARGE
LAMP HAVING A SPACER

PRELIMINARY AMENDMENT

Assistant Commissioner For Patents

Washington, D.C. 20231

Sir:

Prior to calculation of the filing fee please amend the above-identified application as follows:

IN THE SPECIFICATION

Insert the enclosed Abstract as new page 13.

IN THE CLAIMS

In claim 4, line 1, delete "one of Claims 1 to 3" and insert --Claim 1--.

In claim 6, line 1, delete "one of Claims 1 to 3" and insert --Claim 1--.

In claim 10, lines 1 - 2, delete "one of the preceding claims" and insert --claim 1--.

In claim 13, lines 1 - 2, delete "one of the preceding claims" and insert --claim 1--.

In claim 15, lines 1 - 2, delete "one of the preceding claims" and insert --Claim 1--.

In claim 16, lines 1 - 2, delete "one of the preceding claims" and insert --Claim 1--.

In claim 20, line 1, delete "one of Claims 17, 18 or 19" and insert --Claim 17--.

In claim 23, line 1, delete "one of Claims 17 to 22" and insert --Claim 17--.

Respectfully submitted,

YOUNG & THOMPSON

By _____

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December 19, 2000

Dielectrically impeded discharge lamp having a spacer

Technical Field

The invention proceeds from a discharge lamp in accordance with the preamble of Claim 1.

Here, the term "discharge lamp" covers sources of electromagnetic radiation based on gas discharges. The spectrum of the radiation can in this case comprise both the visible region and the UV (ultraviolet)/VUV (vacuum ultraviolet) region as well as the IR (infrared) region. Furthermore, it is also possible to provide a fluorescent layer for converting invisible into visible radiation.

Discharge lamps having so-called dielectrically impeded electrodes are also concerned. Here, the dielectrically impeded electrodes are typically implemented in the form of thin metallic strips which are arranged on the outer and/or inner wall of the discharge vessel. If all the electrodes are arranged on the inner wall, at least some of these electrodes must be completely covered from the interior of the discharge vessel by a dielectric layer. Discharge lamps of this type are usually denoted as dielectrically impeded discharge lamps or dielectric barrier discharge lamps, sometimes also as silent discharge lamps, and are disclosed, for example, in EP 0 363 832 (Figure 3) and WO 98/43279 (Figures 3a, 3b).

More precisely, the invention relates to the abovenamed type of lamp having a large-area discharge vessel, in particular so-called flat lamps. Such lamps typically have two, at least partially and approximately plane,

discharge vessel walls which are adjacent to one another in parallel.

These two vessel walls, referred to below for shortness as front plate and baseplate respectively, are usually connected to one another in a gas-tight fashion via a frame, and thereby form the discharge vessel. Alternatively, the baseplate and/or front plate can be shaped such that a discharge vessel is formed as soon as they are joined. For example, the baseplate and/or front plate can be shaped like a trough, for example by deep drawing of a plane glass plate. In the case of flat lamps of very large area, the predominant fraction of the shaped baseplate or front plate is at least approximately plane in this case as well. In this case such a lamp requires, for stabilization purposes, one or more support points, also denoted as spacers below.

This holds all the more so since a discharge lamp contains a gas filling of defined composition and filling pressure, and must therefore be evacuated before the filling. Consequently, the discharge vessel must permanently resist both underpressure - specifically during the production of the lamp - and the later filling pressure which, in the case of such a lamp, is usually less than atmospheric pressure, for example between 10 kPa and 20 kPa. This is achieved by means of the said spacers, which are arranged between the baseplate and front plate of the discharge vessel in sufficient numbers and in a suitable position. Each spacer rests in this case on two mutually opposite bearing surfaces of the two plates, and thus supports the latter against one another. The positioning of the spacers must be performed in such a way that the discharge, which burns in the form of numerous partial discharges in a fashion essentially parallel to the baseplate of the plane discharge vessel, is not influenced, or is influenced only slightly at most. For this reason, and in order to impair as little as

possible the luminance on the front plate of the plane discharge vessel, the extent of the bearing surface of each spacer is kept as small as possible, in any case to the extent ensuring a reliable support function of the spacers.

Prior Art

Document EP 0 324 953 A1 discloses a flat radiator having dielectrically impeded electrodes and spacers (for example Figure 1). The spacers are formed by elongated distance pieces made from insulating material.

Also known, moreover, are spacers of different shapes, for example in the form of columns or spheres. Different cross-sectional shapes are conceivable in the case of a column. In any case, the individual spacers are usually brought to the desired dimensions by grinding and polishing. It is disadvantageous in this case that these spacers are reflected as relatively dark spots in the luminous front plate of the lamp.

Summary of the Invention

It is the object of the present invention to provide a discharge lamp in accordance with the preamble of Claim 1, in which the spacers are visible as little as possible.

This object is achieved by means of the characterising features of Claim 1. Particularly advantageous embodiments are to be found in the dependent claims.

According to the invention, the or each spacer is provided with an optically diffuse surface at least in the region of one bearing surface. Alternatively, the entire surface of the or each spacer can also be provided with a diffuse surface.

The diffuse surface can be implemented by frosting, for example by etching using hydrofluoric acid, by sand blasting or the like. Or alternatively, the diffuse surface can also be implemented by a thin frosted-white coloured layer.

It is advantageous, in addition, when the area of the bearing surface is as small as possible so that the latter can be detected as little as possible by comparison with the extent of the front plate. However, the bearing surface should not be minimised in such a way that it is to be regarded as being quasi-puntiform in the extreme case, since this could increase impermissibly local loading of the discharge vessel plates. Rather, the bearing surfaces which have proved themselves are those which support a relatively large surface despite a small area, for example cruciform bearing surfaces. The arms of the cross are preferably of relatively narrow design by comparison with a rectangle, which can be regarded as defined by the cross.

A particular problem is added when the or each spacer is formed by a body which has a thickened portion between the two bearing surfaces, for example a polished sphere. Specifically, it has proved that in this case, during operation of the lamp, each bearing surface is imaged as a dark "point" on the front plate of the lamp. A dark aureole appears around this "point". The cause of this seems to be the casting of the shadow of the sphere against the inner wall of the front plate.

According to the invention, at least the bearing surface of the sphere is frosted. Moreover, the upper hemisphere of the sphere, that is to say that hemisphere whose pole lies inside the bearing surface of the sphere with the inner wall of the front plate,

is additionally coated with fluorescent material. However, the bearing surface itself is excluded from the fluorescent material, or the fluorescent layer is at least thinner on the bearing surface. Evidently, the fluorescent layer on the "upper" hemisphere of the sphere reflects or scatters light into the region shaded by the sphere, thus avoiding the abovenamed dark aureole. The uncoated "lower" hemisphere, by contrast, allows the sphere to be entered by light which partly passes out of the bearing surface and through the front plate, thus preventing the production of the abovenamed dark "point" on the front plate.

In a development, the surface of the or each spacer is treated in such a way that the or each relevant surface, possibly with the exception of the bearing surface, has the properties of a "radiation trap". What is meant by this is that the optical properties of the respective surface are specifically varied in such a way that the light beams impinging on this surface are preferably refracted into the relevant spacer and in so doing contribute to lighting this spacer.

This can be achieved, for example, by a multiplicity of suitable microstructures, in particular in the form of prisms or pyramids, on the surface of the or each spacer. The effect of the radiation trap is based in this case on the fact that some of the light beams reflected by a structure impinge on an immediately adjacent structure and are refracted at least partially by this structure into the relevant spacer.

Alternatively, the effect of the radiation trap can also be achieved by a type of anti-reflection interference layer which is applied to the surface of the or each spacer. However, this variant is technically complicated, since interference layers are typically implemented by a stack of thin layers of alternately high or low refractive index.

The material of the spacers consists in each case of optically transparent material, for example glass. Only then are the light beams injected into the spacers capable of passing through the latter at all, that is to say of re-emerging from the spacers without unacceptably high losses, and thereby contributing to lighting it up. As a result, the spacers on the front plate can be detected as little as possible, that is to say the homogeneity of the luminance distribution on the front plate is impaired as little as possible.

Protection is also claimed for such a spacer whose surface is at least partially optically diffuse.

Description of the Drawings

The invention is to be explained in more detail below with the aid of a plurality of exemplary embodiments. In the drawings:

Figure 1 shows the arrangement of spacers in a typical electrode configuration of a flat radiator lamp,

Figure 2 shows a spacer in a detailed and cross-sectional illustration from Figure 1,

Figure 3a shows a further exemplary embodiment of a spacer, in top view, and

Figure 3b shows the spacer from Figure 3a in a side view.

Figure 1 shows a schematic illustration of the arrangement of spacers 1 in a typical electrode configuration of a flat radiator lamp for background lighting of a liquid crystal display screen (not illustrated), in relation to which further reference is made to document WO 98/43276. Elongated anodes 3 and cathodes 4 are arranged alternately on the baseplate 2. The cathodes 4 have nose-like projections 5 (cf. WO 98/11596), at which a partial discharge forms in

each case during operation. Moreover, each anode 3 is completely covered by a dielectric layer (not illustrated). An indication is given for a frame 6 of the discharge vessel which connects the baseplate 2 to a front plate (not illustrated) in a gas-tight fashion, thus forming a discharge vessel. The light from the flat radiator lamp is coupled out essentially through the front plate.

Figure 2 illustrates the spacers 1 in a detailed and cross-sectional illustration from Figure 1. Identical features are provided with identical reference numerals. The spacer 1 - a precision glass sphere made from soft glass with a diameter of 5 mm - is situated between the baseplate 2 and the front plate 7 of the flat radiator lamp. The entire surface 8 of the sphere 1 is etched in a frosted fashion by means of hydrofluoric acid.

The glass sphere 1 is soldered to the baseplate 2 via a glass solder 9, in order to fix it during mounting. The glass solder 9 is preferably mixed with a white pigment, for example with approximately 1 to 10 per cent by weight (% by weight) of rutile (TiO_2), in order to prevent the glass sphere 1 from projecting a possibly dark colour of the glass solder 9 to the front plate 7. It is only the glass sphere 1 which bears against the front plate 7 itself.

With the exception of a small area 110 around the bearing surface of the sphere 1 on the front plate 7, the "upper" hemisphere of the glass sphere 1 adjacent to the front plate 7 is coated with a fluorescent layer 10 which is also located on the baseplate 2 and on the front plate 7.

A prismatic foil 11 (brightness enhancement foil from the 3M), is situated on the outside of the front plate

7, which consists of transparent special glass B270 from the DESAG company.

A reflection layer 12 is also located on the baseplate 2 below the fluorescent layer 10.

Figures 3a, 3b show diagrammatically a further exemplary embodiment of a spacer 13, in a top view and in a side view. This is a glass column having a star-shaped cross section, the star having four arms 14a-14d. The upper end face of the glass column 13 is provided with a frosted-white coloured layer 15.

However, glass columns with a cruciform cross section have also proved themselves (not illustrated), in particular those having arms of a cross which are narrow by comparison with the surface defined.

In a variant (not illustrated) of Figure 1, each glass sphere 1 is replaced by such a glass column 13. In this case, the upper end face or the coloured layer 15 respectively forms the bearing surface with the front plate 7 of the discharge vessel of the lamp.

The advantageous effect of the invention is not limited to the forms of the spacers set forth in the exemplary embodiments.

Patent Claims

1. Dielectrically impeded discharge lamp having
   - a discharge vessel with two at least partially parallel vessel walls (2; 7),
   - at least one spacer (1; 13) made from optically transparent insulating material, the or each spacer (1; 13) being arranged inside the discharge vessel between the two vessel walls (2; 7) in such a way that the or each spacer (1; 13) is in contact with the two vessel walls (2; 7) via bearing surfaces, and
   - electrodes (3; 4), at least one electrode being separated from the interior of the discharge vessel by a dielectric,

   characterized in that,
   - the or each spacer (1; 13) has an optically diffuse surface (8; 15) at least in the region of one bearing surface.

2. Discharge lamp according to Claim 1, in which the diffuse surface (8) is implemented by frosting.

3. Discharge lamp according to Claim 1, in which the diffuse surface is implemented by a thin frosted-white coloured layer (15).

4. Discharge lamp according to one of Claims 1 to 3, in which the or each spacer (13) is formed by a column.

5. Discharge lamp according to Claim 4, in which the cross section of the column is cruciform or star-shaped.

6. Discharge lamp according to one of Claims 1 to 3, in which the or each spacer (1) is formed by a body which has a thickened portion between the bearing surfaces.

7. Discharge lamp according to Claim 6, in which the body is a sphere (1).

8. Discharge lamp according to Claim 7, in which a hemisphere of the sphere is additionally coated with fluorescent material (10) and in which this hemisphere (10) is orientated in such a way that its pole lies inside a bearing surface of the sphere.

9. Discharge lamp according to Claim 8, in which the bearing surface is excluded (110) from the fluorescent material (10), or the fluorescent layer is at least thinner on the bearing surface.

10. Discharge lamp according to one of the preceding claims, in which at least a portion of the surface of the or each spacer has properties of a "radiation trap".

11. Discharge lamp according to Claim 10, in which the surface has microstructures, for example in the form of prisms or pyramids.

12. Discharge lamp according to Claim 10, in which the surface has an anti-reflection interference layer.

13. Discharge lamp according to one of the preceding claims, in which, at least at one bearing surface, the or each spacer (1) is connected to a vessel wall with the aid of a glass solder (9), a white pigment being added to the glass solder (9).

14. Discharge lamp according to Claim 13, in which the white pigment is rutile (TiO_2), and the proportion of glass solder is in the range from approximately 1% by weight to 10% by weight.

15. Discharge lamp according to one of the preceding claims, in which the insulating material of the or each spacer (1; 13) is glass.

16. Discharge lamp according to one of the preceding claims, in which the lamp is a flat lamp, and the two vessel walls are a front plate (7) and a baseplate (2) parallel thereto.

17. Spacer (1; 13) made from optically transparent insulating material for use in a dielectrically impeded discharge lamp having a discharge vessel with two at least partially parallel walls (2; 7), the spacer (1; 13) being provided for the purpose of being arranged inside the discharge vessel of the discharge lamp between the two vessel walls (2; 7) in such a way that the spacer (1; 13) is in contact via bearing surfaces with the two vessel walls (2; 7), characterised in that the spacer (1; 13) has an optically diffuse surface (8; 15) at least in the region of one bearing surface.

18. Spacer (1) according to Claim 17, in which the diffuse surface (8) is implemented by frosting.

19. Spacer (13) according to Claim 17, in which the diffuse surface is implemented by a thin frosted-white coloured layer (15).

20. Spacer according to one of Claims 17, 18 or 19, in which at least a portion of the surface of the spacer has properties of a "radiation trap".

21. Spacer according to Claim 20, in which the surface has microstructures, for example in the form of prisms or pyramids.

22. Spacer according to Claim 20, in which the surface has an anti-reflection interference layer.

23. Spacer (1) according to one of Claims 17 to 22, in which at least a portion of the surface of the spacer additionally has a fluorescent layer (10).

Abstract

A discharge lamp, suitable for operation by means of dielectrically impeded discharge, having a discharge vessel with two at least partially parallel vessel walls (2; 7), and at least one spacer (1) made from optically transparent insulating material. The or each spacer (1) is in contact with the two vessel walls (2; 7) via bearing surfaces. The or each spacer has an optically diffuse surface (8) at least in the region of one bearing surface. (Figure 2).

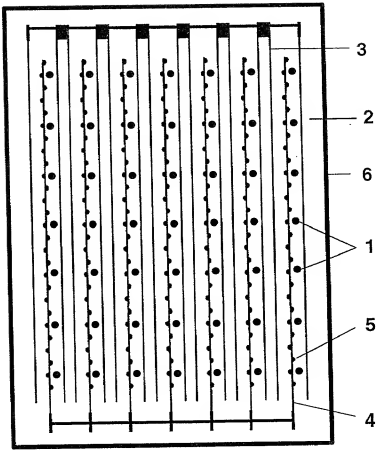

FIG. 1

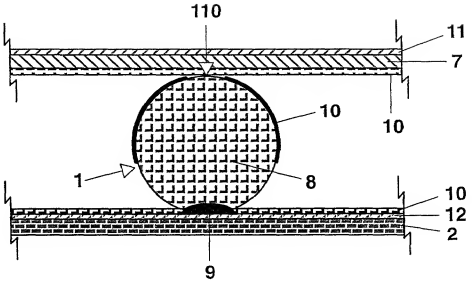

FIG. 2

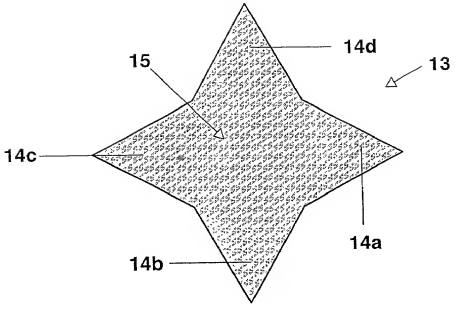

FIG. 3a

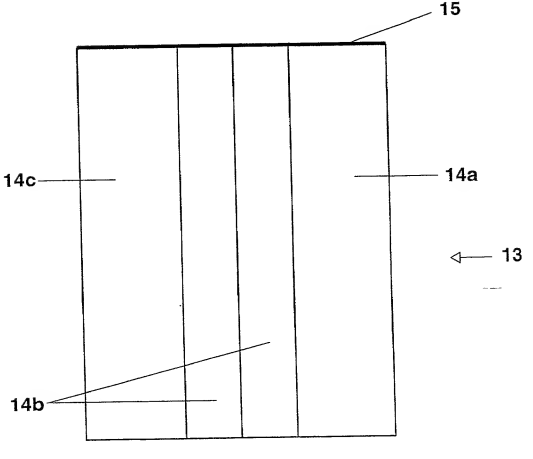

FIG. 3b

Combined Declaration for Patent Application and Power of Attorney (Continued)
(Includes Reference to PCT International Applications)

ATTORNEY'S DOCKET NUMBER

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 U.S.C. 120:

U.S. APPLICATIONS		STATUS (Check one)		
U.S. Application Number	U.S. Filing date	PATENTED	PENDING	ABANDONED

PCT APPLICATIONS DESIGNATING THE U.S.					
PCT APPLICATION NO.	PCT FILING DATE	U.S. SERIAL NUMBERS ASSIGNED (if any)			

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. (List name and registration number) Carlo S. Bessone, Reg. No. 30,547; Robert F. Clark, Reg. No. 33,853; William E. Meyer, Reg. No. 30,719; and William H. McNeill, Reg. No. 24,426

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201	FULL NAME OF INVENTOR	FAMILY NAME ILMER	FIRST GIVEN NAME Michael	SECOND GIVEN NAME
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202	FULL NAME OF INVENTOR	FAMILY NAME EBERHARDT	FIRST GIVEN NAME Angela	SECOND GIVEN NAME
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	POST OFFICE ADDRESS	POST OFFICE ADDRESS Denkenhofstr. 14b	CITY D-81249 Muenchen	STATE & ZIP CODE/COUNTRY Federal Republic of Germany

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201	SIGNATURE OF INVENTOR 202	SIGNATURE OF INVENTOR 203
DATE 01.12.00	DATE 01.12.00	DATE 01/12/00

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY
(Includes Reference to PCT International Applications)

ATTORNEY'S DOCKET NUMBER

As a below named inventor, I hereby declare that:
My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

Dielectrically impeded discharge lamp having a spacer

the specification of which (check only one item below):

☐ is attached hereto.

☐ was filed as United States application

Serial No. _____

on _____

and was amended

on _____ (if applicable).

☒ was filed as PCT international application

Number PCT/DE 00/01227

on 19 April 2000

and was amended under PCT Article 19

on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN/PCT APPLICATION(S) AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. 119:

COUNTRY (if PCT, indicate "PCT")	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 35 USC 119
Germany	199 19 363.0	28 April 1999	☒ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No